

What is claimed is:

1. A composition of matter comprising a calcium component, selected from the group consisting essentially of quicklime and dolomitic quicklime formed into agglomerates, the agglomerates containing a non-aqueous binder, and the agglomerates having a particle size in a range of about 1.0 mm to 20 mm with at least 90 percent of said agglomerates having a particle size within 60 percent, plus or minus, of a predetermined particle size within said range.

2. The composition of matter as defined in claim 1, wherein said non-aqueous binder is a wax.

3. The composition of matter as defined in claim 1, wherein said non-aqueous binder is a starch.

4. The composition of matter as defined in claim 1, wherein said calcium component is quicklime.

5. The composition of matter as defined in claim 1, wherein said calcium component is dolomitic quicklime.

6. The composition as defined in Claim 1, wherein said non-aqueous binder is present in an amount of less than about 20 percent by weight of the agglomerates.

7. The composition as defined in Claim 1, wherein the agglomerates have a particle size in a range of about 1.0 mm to 20 mm, with at least 90 percent of said agglomerates having a particle size within 25 percent, plus or minus, of a predetermined particle size within said range.

8. A composition of matter comprising a calcium component, selected from the group consisting essentially of quicklime and dolomitic quicklime formed into agglomerates, the agglomerates containing a non-aqueous binder, selected from the group consisting of a wax and a starch, said binder present in an amount of less than about 20 percent by weight of the agglomerates, and the agglomerates having a particle size in a range of about 1.0 mm to 20 mm with at least 90 percent of said agglomerates having a particle size within 60 percent, plus or minus, of a predetermined particle size within said range.

9. The composition as defined in Claim 8, whereas said calcium component is quicklime and said binder is a wax.

10. In an electric arc furnace steelmaking process, wherein a calcium component is injected into the slag and/or metal into an electric arc furnace for use as a slag forming material therein, the calcium component injected through injectors of the electric arc furnace using air, the improvement comprising:

supplying, as the calcium component, a calcium component selected from the group consisting essentially of quicklime and dolomitic quicklime formed into agglomerates, the agglomerates containing a non-aqueous binder, and the agglomerates having a particle size in a range of about 1.0 mm to 20 mm with at least 90 percent of said agglomerates having a particle size within 60 percent, plus or minus, of a predetermined particle size within said range.

11. The process as described in Claim 10, wherein said non-aqueous binder is selected from the group consisting of a wax and a starch.

12. The process as defined in Claim 10, wherein said calcium component is quicklime.

13. The process as defined in Claim 10, wherein said calcium component is dolomitic quicklime.

14. The process as described in Claim 10, wherein the agglomerates have a particle size in a range of about 1.0 mm to 20 mm with at least 90 percent of said agglomerates having a particle size with 25 percent, plus or minus, of a predetermined particle size within said range.

15. The process as defined in Claim 10, wherein said calcium component is injected into the electric arc furnace through a side wall injector.

16. The process as defined in Claim 10, wherein said air is enriched with oxygen.

17. In an electric arc furnace steelmaking process, wherein a calcium component is injected into the slag and/or metal into an electric arc furnace for use as a slag forming material therein, the calcium component injected through injectors of the electric arc furnace using air, the improvement comprising:

supplying, as the calcium component, a calcium component selected from the group consisting essentially of quicklime and dolomitic quicklime formed into agglomerates, the agglomerates containing a non-aqueous binder, selected from the group consisting of a wax and a starch, said binder present in an amount of less than about 20 percent by weight of the agglomerates, and the agglomerates having a particle size in a range of about 1.0 mm to 20 mm, with at least 90 percent of said agglomerates having a particle size within 60 percent, plus or minus, of a predetermined particle size within said range.

18. The process as defined in Claim 17, wherein the agglomerates have a particle size in a range of about 1.0 mm to 20 mm with at least 90 percent of said agglomerates having a particle size within 25 percent, plus or minus, of a predetermined particle size within said range.

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19. The process as defined in Claim 17, wherein said calcium component is quicklime and said binder is a wax.